

8

Oregon OSAS

GRADE 7

MATH

PRACTICE TESTS



**Standards Aligned
Problem Solving**

For Comprehensive
Assessment Programs



**8 PRINTED
TESTS**



**2 ONLINE
TESTS**



Use these two additional online practice tests
for **extra review** after the printed tests in this book.



BUILD CONFIDENCE



STRENGTHEN SKILLS



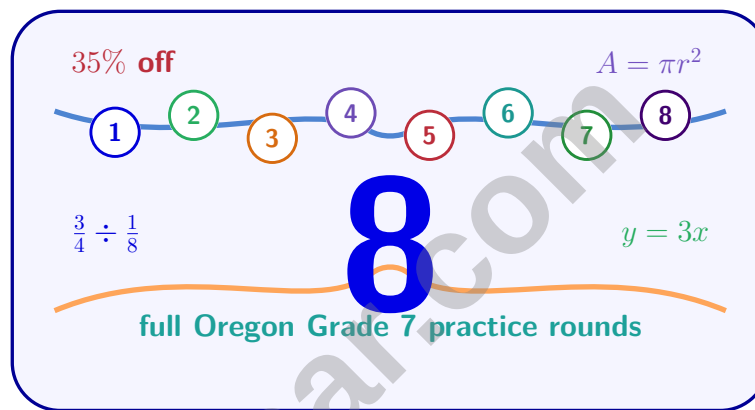
THINK SMARTER



BE TEST-READY

8 Oregon OSAS Grade 7 Math Practice Tests

A student-centered review of Oregon Grade 7 ratios, rational numbers, expressions, equations, prisms, cylinders, and chance



Eight complete 40-question Grade 7 OSAS practice rounds with proportional relationships, percents, rational numbers, expressions, equations, geometry, statistics, probability, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, Oregon Grade 7 Problem Solver!

Eight focused rounds for sharper OSAS math thinking

This book gives you eight full Grade 7 OSAS math practice tests. Each round is built to help you notice structure, compare quantities, use proportional reasoning, handle rational numbers, and explain your thinking with care.

Your Oregon Practice Promise

I will read every question carefully, choose a strategy that fits, write enough work to prove my answer, and use corrections as training for the next test.

Read

Model

Verify

How to Use This Book

An eight-session plan for confident Grade 7 review

1. **Warm up with the review pages.** Notice the big ideas before starting the tests.
2. **Complete one test at a time.** Treat each 40-question round like a real practice session.
3. **Show your reasoning.** Jot a proportion, equation, diagram, number line, or quick estimate when it helps.
4. **Correct actively.** Rework missed items before reading the explanation.
5. **Choose the next target.** After each test, name one skill and one habit to improve.

Oregon review rhythm: Work a test, score it, study your misses, then come back ready for the next round with one clear goal.



What Is Inside?

Eight OSAS tests, 320 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 4–6	Expressions, equations, inequalities, scale drawings, geometry, and multi-step problem solving.
Tests 7–8	Statistics, probability, mixed review, stamina, and choosing efficient strategies.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Grade 7 success means recognizing which idea is being tested even when the next question changes format.



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& answers

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1)

Fraction	Decimal
$\frac{1}{8}$	?

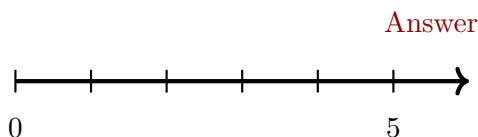
What is the decimal equivalent of $\frac{1}{8}$?

☐ A. 0.18☐ C. 0.185☐ B. 0.125☐ D. 0.215

2) A pair of shoes is on sale for \$60 after a 25% discount. What was the original price of the shoes?

3) An investment grows from \$900 to \$1,059.48 in 2 years with annual compound interest. Find the interest rate as a decimal.

4) Number-line model: Where does $\frac{5}{6} \div \frac{1}{6}$ map on the number line?

☐ A. 0☐ C. At 5☐ B. Between 0 and 1☐ D. Beyond 5

5)

Time (hours)	Temperature change (°F)
1	-1.5
2	-3.0
3	-4.5

Based on the pattern, what is the temperature change after 5 hours?

☐ A. -6.0°F ☐ C. 7.5°F ☐ B. -7.5°F ☐ D. -13.5°F

6) Solve: $4x - 9 = -1$ and verify by substituting back.

☐ A. $x = -2$ ☐ C. $x = 2$ ☐ B. $x = 0$ ☐ D. $x = 4$

7) Solve and identify the key step: $-5x \geq 20$

Original: $-5x \geq 20$

Divide both sides by -5 .

FLIP the inequality: $\geq$ becomes $\leq$

Result: $x \leq -4$

☐ A. $x \leq -4$ ☐ C. $x < 4$ ☐ B. $x \geq -4$ ☐ D. $x = -4$

8) A toy car is a scale model of a real car with a scale of 1 : 64. If the toy car is 8 cm long, what is the length of the real car in meters?

☐ A. 0.512 m☐ C. 5.12 m☐ B. 2.56 m☐ D. 51.2 m

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9) What is $\sqrt{81}$?

☐ A. 8

☐ C. 10

☐ B. 9

☐ D. 11

Comparing Scientific Notation

Number 1:
 2.1×10^4
 $= 21,000$

Number 2:
 3.5×10^3
 $= 3,500$

10)

Which number is larger?

☐ A. Number 1

☐ C. They are equal

☐ B. Number 2

☐ D. Cannot determine

11) Combine like terms: $(7a + 9) - (3a - 4)$

☐ A. $4a + 13$

☐ C. $10a + 5$

☐ B. $4a + 5$

☐ D. $4a - 13$

12) If $a + (-a) = 0$, and $a = 27$, what is the value of $-a$?

13) A bus company charges \$8 for an adult ticket and \$4 for a child ticket. If the total for 2 adults and 3 children is \$28, which equation is correct?

☐ A. $8(2 + 3) + 4 = 28$

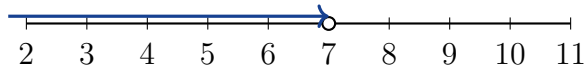
☐ C. $2(8 + 4) + 3 = 28$

☐ B. $8 + 2 + 4 + 3 = 28$

☐ D. $2(8) + 3(4) = 28$



- 1) A student is asked to graph the solution to an inequality. The student draws an open circle at 7 and an arrow pointing left. What is the inequality they should be solving?



- ☐ A. $n \geq 7$
☐ C. $n > 7$
☐ B. $n < 7$
☐ D. $n \leq 7$
- 2) Identify which pair of expressions are equivalent.
- ☐ A. $(3c + 2) + (4c - 1)$ and $7c + 1$
☐ C. $(2c + 3) + (5c - 2)$ and $7c + 1$
☐ B. $(6c + 5) - (2c + 3)$ and $4c + 8$
☐ D. $(9c - 4) - (3c + 1)$ and $6c - 5$
- 3) Which expression shows the associative property of multiplication?
- ☐ A. $((-3) \times 2) \times 4 = (-3) \times (2 \times 4)$
☐ C. $(-2) \times 5 = 5 \times (-2)$
☐ B. $(-3) \times (2 \times 4) = (-3) \times (4 \times 2)$
☐ D. $3 \times (2 + 4) = (3 \times 2) + (3 \times 4)$
- 4) A book originally costs \$30. Which form best shows the factored structure of a 10% discount (that you keep 90% of the price)?
- ☐ A. $30 - 0.1(30)$
☐ C. 0.9×30
☐ B. $30(1 - 0.1)$
☐ D. $30 + 10$
- 5) A spinner has 10 equally-sized sections. 4 are labeled “Red”, 3 are labeled “Blue”, and 3 are labeled “Yellow”. What is the probability of spinning Blue?
- ☐ A. $\frac{3}{10}$
☐ C. $\frac{4}{10}$
☐ B. $\frac{1}{3}$
☐ D. $\frac{3}{7}$



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- 6) A circle has a radius of 7 cm. What is its area? (Use $\pi \approx 3.14$. Round to the nearest hundredth if needed.)

- 7) A dot plot shows the number of hours 8 friends played video games last Saturday: 0, 1, 1, 2, 3, 3, 3, 5. Which statistic is MOST resistant to the outlier (5 hours)?

- ☐ A. Mean ☐ C. Range
☐ B. Median ☐ D. Mode

- 8) Two letters are selected from {P, Q, R, S} with replacement. How many outcomes are in the sample space?

- ☐ A. 4 ☐ C. 12
☐ B. 8 ☐ D. 16

- 9) A game uses a spinner divided into 8 equal sections. The spinner was spun 800 times. One section appeared 85 times. Comparing the experimental and theoretical probabilities, which statement is true?

- ☐ A. Both equal $\frac{1}{8}$. ☐ C. Experimental is higher than theoretical.
☐ B. Experimental is $\frac{85}{800}$; theoretical is $\frac{1}{8}$. ☐ D. Theoretical is higher than experimental.



1) A coin is flipped and a six-sided die is rolled. How many outcomes are in the sample space?

☐ A. 6☐ C. 12☐ B. 8☐ D. 36

2) An error in a dataset is corrected: 28 is removed and 82 is added. Comparing the old and new stem-and-leaf plots, which measure of central tendency is most likely to change?

☐ A. Mode☐ C. Mean☐ B. Median☐ D. Range

3) An investment earns \$240 in simple interest from a principal of \$2000 over 4 years. What is the annual interest rate as a decimal?

4) A banner is shaped like a rectangle (18 inches $\times$ 10 inches) with a semicircle ($r = 5$ inches) attached to the top. What is the total area? (Use $\pi \approx 3.14$.)

☐ A. 139.25 in^2 ☐ C. 205.5 in^2 ☐ B. 180 in^2 ☐ D. 219.25 in^2

5) A gardener estimated needing 15 gallons of water but used 18 gallons. What is the percent error?

☐ A. 20%☐ C. 18%☐ B. 83.3%☐ D. 16.7%

- 6) Expand and simplify: $7(t - 2) + 3(4 - t)$
- ☐ A. $4t - 2$ ☐ C. $6t + 12$
☐ B. $10t + 12$ ☐ D. $8t - 2$
- 7) When subtracting a negative number, why do we add its opposite instead?
- ☐ A. Because subtraction and addition are the same operation ☐ C. To make the problem easier to solve
☐ B. Because subtracting the opposite of a number is equivalent to adding the number itself ☐ D. Because negative numbers cannot be subtracted
- 8) A jacket has a sale price of \$45 after a 10% discount. What was the original price?
- ☐ A. \$49.50 ☐ C. \$40.50
☐ B. \$54 ☐ D. \$50
- 9) Which expression shows $2 \cdot 5 + 2 \cdot 3$ factored?
- ☐ A. $2(5 + 3)$ ☐ C. $2 \cdot 15$
☐ B. $(2 + 5)(2 + 3)$ ☐ D. $5 + 3$
- 10) A student calculates the surface area of a rectangular prism with dimensions 5 cm, 3 cm, and 4 cm. They compute $5 \times 3 + 5 \times 4 + 3 \times 4 = 47 \text{ cm}^2$ and forget to multiply by 2. What error did they make?
- ☐ A. They calculated only one pair of faces instead of all pairs. ☐ C. They used subtraction instead of addition.
☐ B. They forgot to square each dimension. ☐ D. They included a face that doesn't exist.



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Oregon OSAS Grade 7 Practice Test Answer Keys**How to use this section with a Grade 7 student:**

1. check the answer first and circle any item that needs another look
2. retry the problem with fresh work before reading the explanation
3. write one short lesson learned from each missed or guessed item

A strong review routine turns every correction into a sharper plan for the next Oregon OSAS practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (7.NS.2d) Divide $1 \div 8 = 0.125$. The denominator $8 = 2^3$ gives a terminating decimal.
- 2) **The correct answer is \$80.** (7.RP.3) If the original price is x , then $0.75x = 60$, so $x = 60 \div 0.75 = \$80$.
- 3) **The correct answer is 0.08.** (7.RP.3) $900(1+r)^2 = 1059.48 \Rightarrow (1+r)^2 = 1.1772 \Rightarrow 1+r = 1.08 \Rightarrow r = 0.08$.
- 4) **Choice C is correct.** (7.NS.1-7.NS.3) $\frac{5}{6} \div \frac{1}{6} = \frac{5}{6} \times \frac{6}{1} = 5$.
- 5) **Choice B is correct.** (7.NS.1-7.NS.3) Change per hour is -1.5°F . After 5 hours: $-1.5 \times 5 = -7.5^\circ\text{F}$.
- 6) **Choice C is correct.** (7.EE.3-7.EE.4) Add 9: $4x = 8$. Divide by 4: $x = 2$. Check: $4(2) - 9 = 8 - 9 = -1$ ✓. Reasonable: positive result minus larger value gives negative.
- 7) **Choice A is correct.** (7.EE.4b) When dividing by a negative number, always flip the inequality sign. Here: $-5x \geq 20 \Rightarrow x \leq -4$.
- 8) **Choice C is correct.** (7.G.1-7.G.5) Real length: $8 \text{ cm} \times 64 = 512 \text{ cm} = 5.12 \text{ m}$.
- 9) **Choice B is correct.** (7.NS.1-7.NS.3) $9 \times 9 = 81$, so $\sqrt{81} = 9$.
- 10) **Choice A is correct.** (7.NS.1-7.NS.3) $21,000 > 3,500$, so 2.1×10^4 is larger.
- 11) **Choice A is correct.** (7.EE.1-7.EE.2) Distribute the negative: $7a + 9 - 3a + 4 = (7a - 3a) + (9 + 4) = 4a + 13$.
- 12) **The correct answer is -27.** (7.NS.1-7.NS.3) Since $a = 27$, the opposite (additive inverse) is $-a = -27$. We can verify: $27 + (-27) = 0$.
- 13) **Choice D is correct.** (7.EE.4a) Two adults at \$8 each: $2(8) = \$16$. Three children at \$4 each: $3(4) = \$12$. Total: $16 + 12 = 28$.
- 14) **Choice B is correct.** (7.EE.3-7.EE.4) Subtract 8: $-3x = -6$. Divide by -3 : $x = 2$.
- 15) **Choice C is correct.** (7.EE.4a) Distribute: $8x - 12 = 20$. Add 12: $8x = 32$. Divide by 8: $x = 4$.
- 16) **Choice A is correct.** (7.NS.2) $\frac{1}{3} \times \frac{1}{2} = \frac{1 \times 1}{3 \times 2} = \frac{1}{6}$.
- 17) **Choice A is correct.** (7.EE.1-7.EE.2) $50 - 0.05(50) = 50(1 - 0.05) = 50(0.95)$. The factor 0.95 captures the scale: keeping 95% of the original.
- 18) **The correct answer is B,C.** (7.NS.1-7.NS.3) Choice A: $-\frac{1}{2} + \frac{1}{2} = 0$ (zero, not negative). Choice B: $-3.5 - 2.1 = -5.6$ (negative, correct). Choice C: $4 - 9 = -5$ (negative, correct). Choice D: $\frac{2}{3} + \frac{1}{3} = 1$ (positive).
- 19) **Choice A is correct.** (7.SP.5-7.SP.8) Red sector is 180° out of 360° : $P(\text{red}) = \frac{180}{360} = \frac{1}{2}$.
- 20) **Choice C is correct.** (7.RP.3) Tip = $0.18 \times 50 = \$9.00$. The question asks for the tip amount, not the total bill.
- 21) **Choice A is correct.** (7.SP.3) Grade 6 clusters at 14–17 push-ups, showing all students perform at similar levels with room to improve together. Grade 7 spreads from 8–22, with some students already excelling (22) while others lag (8). A uniform group (Grade 6) has more opportunity for collective advancement.
- 22) **Choice D is correct.** (7.RP.1-7.RP.3) Apples: $5 \times \$0.60 = \3.00 . Oranges: $3 \times \$1.20 = \3.60 . Total: $\$3.00 + \$3.60 = \$6.60$.
- 23) **Choice B is correct.** (7.G.4-7.G.6) Square: $8 \times 8 = 64 \text{ cm}^2$. Triangle: $\frac{1}{2} \times 8 \times 8 = 32 \text{ cm}^2$. Total: $64 + 32 = 96 \text{ cm}^2$.
- 24) **Choice D is correct.** (7.G.4-7.G.6) $V = l \times w \times h = 14 \times 8 \times 6 = 672 \text{ cm}^3$.
- 25) **Choice C is correct.** (7.G.1-7.G.5) By the Triangle Inequality, the sum of the two shorter sides must exceed the longest side.
- 26) **Choice B is correct.** (7.G.4-7.G.6) An arc is a portion of the circumference (curved). A chord is a straight line segment with endpoints on the circle. They are different.
- 27) **Choice C is correct.** (7.G.1-7.G.5) Triangle Inequality requires: $x + x > 11$, so $x > 5.5$. The other conditions $11 + x > x$ and $x + 11 > x$ are always true. There is no upper bound on x from the Triangle Inequality.
- 28) **Choice A is correct.** (7.SP.1-7.SP.4) $\frac{15}{50} = 0.30$; $\frac{12}{40} = 0.30$; $\frac{18}{72} = 0.25$. First and second both equal 30%.
- 29) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate: $\frac{3/4}{1/3} = \frac{3}{4} \times 3 = \frac{9}{4} = 2\frac{1}{4}$ cups per batch.
- 30) **The correct answer is \$119.50.** (7.NS.1-7.NS.3) Total spent = $\$42.50 + \$18.25 + \$21.00 = \81.75 . Balance after purchases: $\$125.75 - \$81.75 = \$44.00$. Final balance after deposit: $\$44.00 + \$75.50 = \$119.50$.



One Last Encouragement

Hi, Determined Student!

◇ You did meaningful Grade 7 practice. That matters because confidence is built through action, not waiting until everything feels easy. This wide-ranging book gave you eight serious Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. ◇

★ **Remember this:** Carry this with you: you can learn hard things by breaking them into steps, asking good questions, and reviewing with honesty. ★

Take This With You

- **You Can Start:** Even when the problem looks big.
- **You Can Adjust:** When the first method is not enough.
- **You Can Learn:** From every corrected mistake.
- **You Can Improve:** One practice session at a time.

Grade 7 test-day tip: Walk into test day ready to think, not ready to be perfect. Thinking clearly is the goal.

If you want to share something or ask a question, please email me at jay@testinar.com.

Jay Daie

Your Grade 7 Math Friend

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **8** full-length Math practice tests and **2** online tests to help Grade 7 students build confidence, strengthen skills, and excel on standardized assessments.

Each practice test is carefully crafted to reflect the latest standards and includes a variety of question types, realistic test conditions, and detailed answer explanations.

Perfect for classroom use, homework, test preparation, and extra practice at home.



THIS BOOK INCLUDES:

8 Full-Length Printed Tests

2 Online Practice Tests

 Detailed Answer Explanations



MORE PRACTICE. GREATER RESULTS.

Give your child the tools to build strong math skills, confidence, and a positive attitude toward learning.

WHAT YOU'LL GAIN



Stronger Math Skills

Build a solid foundation through targeted practice and review.



Better Problem Solving

Develop logical thinking and effective solution strategies.



Deeper Understanding

Reinforce key concepts with clear explanations and meaningful practice.



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Achieve Success

Build confidence and perform your best on test day.

TOPICS COVERED

- ✓ Ratios & Proportions
- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Percents & Decimals
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ Algebraic Thinking
- ✓ And More!



2 ONLINE TESTS

Use these two additional online practice tests for extra review after the printed tests in this book.



2 EXTRA ONLINE TEST ACCESS CODE IS INSIDE THE BOOK!

Don't lose it—your extra practice and success start here!



VISIT **TESTINAR.COM/MATH7** FOR MORE PRACTICE TESTS



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